REMARKS

Claims 1-25 are pending. Claims 1-25 stand are rejected.

The Applicant acknowledges the withdrawal of the objections to claims 13-17 and 22.

Claim Rejections – 35 U.S.C. § 102

Claims 1-11 are rejected by the Office Action under 35 U.S.C. 102(b) as allegedly being anticipated by US 5,506,910 (Miller).

Regarding claim 1, Miller fails to teach or even suggest the element "a communications pathway between the first channel element and the second channel element, wherein one of the channel elements informs another channel element about detecting **acoustic feedback**, and wherein the other channel element may continue searching for an associated acoustic feedback component while said one of the channel elements configures in accordance with determined filter parameters" as claimed in claim 1. (Emphasis added.) The Office Action alleges that this element is disclosed in Miller (Col. 7, lines 42-47). The Office Action specifically alleges that (Page 2, section 2.):

> Regarding Miller, Miller teaches that a "...control link connects the automatic equalizers 20a and 20b for arbitrating and/or **synchronizing** the testing frequency generation and **response analysis**...." (emphasis added). Therefore it is inherent that synchronizing the response analysis must include a step of informing either channel that feedback is detected. The limitation that the other channel **may continue** is irrelevant, because the phrase imposes no limitation whether or not that channel continues. It either continues or it does not.

However, Miller (fig. 5 and column 7, lines 32-57) discloses a control link (e.g., control link 72 as shown in fig. 5) that merely informs the other automatic equalizer (i.e., either automatic equalizer 20a or 20b) about arbitrating and synchronizing the testing frequency generation and response analysis of channel A (from speaker 36a to audio pickup 40a) and channel B (from

speaker 36b to audio pickup 40b) in order to determine the acoustic characteristics experienced by the audience (as approximated by the forward acoustic paths from speakers 36 a,b to audio pickups 40 a,b and as illustrated in fig. 2). Miller does not even suggest a control link that informs another channel element about detecting acoustic feedback corresponding to the path from speaker 36a to microphone 28 (which is positioned in stage section 60 as clarified in fig. 3) and to the path from speaker 36b to microphone 28. Reference pickups 40a and 40b (which are positioned in the audience section as clarified in fig. 3) are suitably positioned on the left and right of the auditorium to test the frequency response of the corresponding channel (i.e., channel A or B and not the feedback channels from speakers 36a and 36b to microphones 28). Acoustic feedback is typically initiated by random external events. However, control link 72 merely supports scheduled or user-initiated events, e.g., sound system equalization as Miller discloses in column 7, lines 32-51. Miller does not disclose a control link with the necessary agility to support real-time monitoring and response to feedback events that may occur non-deterministically and without compromising the ability to detect feedback in real-time

Claims 2-11 ultimately depend from claim 1 are not anticipated for at least the above reasons. Regarding claim 3, the claimed invention includes "a first adaptive **notch filter that detects the first acoustic feedback component**" and "a first operative **notch filter that attenuates the first acoustic feedback component** as instructed by the first adaptive notch filter or the second channel element." (Emphasis added.) Miller merely discloses (column 7, lines 32-38) a notch filter (i.e., narrow band reject filter 21) that notches a portion of the frequency spectrum so that an audio reference signal can be injected in the portion of the frequency spectrum. Narrow band reject filter 21 (as shown in fig. 1) does not affect acoustic feedback but merely notches the audio program from mixer 24 so that test reference signals can be injected by

masked sine wave adder 22 at frequencies determined by control 44. Moreover, Miller fails to even suggest an adaptive notch filter. Miller merely discloses a notch filter that has deep narrow notch filtering characteristics to eliminate program frequencies (e.g., col. 7, lines 47-5)) and does not even suggest a notch filter that detects acoustic feedback and that has adaptive characteristics.

Claims 4, 5, 8, 9, 10, and 11 ultimately depend from claim 3 and include additional features that are not even suggested by Miller. Claim 4 includes the feature of "wherein the second operative notch filter receives filter parameters from the first operative notch filter in response to the first adaptive notch filter detecting the first acoustic feedback component." Also, claim 5 includes the feature of "wherein the second operative notch filter receives filter parameters from the first operative notch filter in response to the first adaptive notch filter detecting the first acoustic feedback component." Claim 8 includes "an additional channel element that detects an additional acoustic feedback component of an additional acoustic signal, the additional channel element comprising an additional operative notch filter." Claim 9 includes the feature of "wherein configurations of the first operative notch filter, the second operative notch filter, and the additional operative notch filter are interactive with each other." Claim 10 includes the feature of "wherein the first operative notch filter and the second operative notch filter are interactive, and wherein the first operative notch filter and the other operative notch filter are not interactive." Claim 11 includes "at least one constituent notch filter comprising a first constituent notch filter, wherein the first constituent notch filter is characterized by a first notch frequency and a first notch depth, and wherein the first notch frequency and the first notch depth are configured by the control module in accordance with the filter parameters." The Applicant requests for reconsideration of claims 1-11.

Claim Rejections – 35 U.S.C. § 103

Claims 12-25 are rejected by the Office Action under 35 U.S.C. 103(a) as allegedly being unpatentable over Miller and US 4,177,356 (Jaeger).

Regarding claim 12, the claimed invention includes the feature of "sending, by the first channel element, **a first indicator that is indicative of the first acoustic feedback component** to the second channel element." (Emphasis added.) As discussed above, in reference to control link 72, Miller fails to teach or even suggest a first indicator that is indicative of the first acoustic feedback component. Jaeger, as alleged by the Office Action, merely teaches that filter parameters are shared to preserve a stereo image. However, Jaeger does not make up for the deficiencies of Miller.

Because claims 13-25 ultimately depend from claim 12, claims 13-25 are patentable for at least the above reasons. The Applicant requests for reconsideration of claims 12-25.

Conclusions

All objections and rejections have been addressed. Hence, it is respectfully submitted that the present application is in condition for allowance, and a notice to that effect is earnestly solicited.

Respectfully submitted,

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